

IN THE CLAIMS

1 1. (Cancelled)

1 2. (Cancelled)

1 3. (Currently Amended) A live, attenuated strain of *V.anguillarum* which comprises:

2 a *mugA* gene comprising nucleotides 1218-2610 of SEQ ID NO:1, ~~the *mugA* gene being~~  
 3 ~~mutated such that the strain is incapable of expressing a functional *mugA* protein~~ the strain  
 4 having a mutation located within nucleotides 1218-2610 of SEQ ID NO: 1 that renders the  
 5 strain incapable of expressing a functional *mugA* protein.

1 4. (Original) The live, attenuated strain according to claim 3 wherein the strain is  
 2 incapable of growing in salmon intestinal mucus.

1 5. (Original) The live, attenuated strain according to claim 3 wherein the mutation is  
 2 non-revertible.

1 6. (Original) The live, attenuated strain according to claim 4 wherein the mutation is  
 2 an insertion.

1 7. (Original) The live, attenuated strain according to claim 4 wherein the mutation is a  
 2 deletion.

1 8. (Currently Amended) A vaccine strain against *V.anguillarum* infection in an animal  
 2 selected from the group consisting of fish, bivalves and crustaceans comprising:

3 a live, attenuated strain of *V.anguillarum* which comprises a *mugA* gene comprising  
 4 nucleotides 1218-2610 of SEQ ID NO:1, ~~the *mugA* gene being mutated such that the strain is~~

5 ~~incapable of expressing a functional *mugA* protein~~ the strain having a mutation located within  
 6 nucleotides 1218-2610 of SEQ ID NO: 1 that renders the strain incapable of expressing a  
 7 functional *mugA* protein.

1 9. (Original) The vaccine strain according to claim 8 wherein the strain further  
 2 comprises a pharmaceutically acceptable carrier.

1 10. (Cancelled)

1 11. (Cancelled)

1 12. (Cancelled)

1 13. (Original) The vaccine strain according to claim 8 wherein the mutation is non-  
 2 revertible.

1 14. (Original) The vaccine strain according to claim 13 wherein the mutation is an  
 2 insertion.

1 15. (Original) The vaccine strain according to claim 13 wherein the mutation is a  
 2 deletion.

1 16. (Currently Amended) A method for immunizing an animal selected from the group  
 2 consisting of fish, bivalves and crustaceans against *V. anguillarum* infection in the animal  
 3 which comprises:

4 administering to the animal a vaccine comprised of a live, attenuated strain of  
 5 *V. anguillarum* which comprises a mutated *mugA* gene comprising nucleotides 1218-2610 of  
 6 SEQ ID NO:1, ~~the *mugA* gene being mutated such that the strain is incapable of expressing a~~

7 ~~functional *mugA* protein.~~ said strain having a mutation located within nucleotides 1218-2610 of  
8 SEQ ID NO: 1 that renders the strain incapable of expressing a functional *mugA* protein.

1 17. (Original) The method according to claim 16 wherein administering comprises  
2 immersion.

1 18. (Original) The method according to claim 16 wherein administering comprises  
2 intraperitoneal injection.

1 19. (Original) The method according to claim 16 wherein administering comprises oral  
2 intubation.

1 20. (Original) The method according to claim 16 wherein administering comprises anal  
2 intubation.

1 21. (Original) The method according to claim 16 wherein administering comprising  
2 immersing the animal in a medium containing the attenuated strain.

1 22. (Canceled)

1 23. (Canceled)

1 24. (Cancelled)

1 25. (Original) The method according to claim 16 wherein the mutation in the *mugA*  
2 gene is non-revertible.

1 26. (Original) The method according to claim 25 wherein the mutation in the *mugA*  
2 gene is an insertion.

1 27. (Original) The method according to claim 25 wherein the mutation in the *mugA*  
2 gene is a deletion.

1 28. (Currently Amended) A method of inducing an immune response in an animal selected  
2 from the group consisting of fish, bivalves and crustaceans against one or more pathogens  
3 which comprises transforming a live, attenuated strain of *V. anguillarum* which comprises a  
4 *mugA* gene comprising nucleotides 1218-2610 of SEQ ID NO:1, said strain having a mutation  
5 located within nucleotides 1218-2610 of SEQ ID NO: 1 that renders said strain incapable of  
6 expressing a functional *mugA* protein ~~the *mugA* gene being mutated such that the strain is~~  
7 ~~incapable of expressing a functional *mugA* protein,~~, with a plasmid comprising DNA of  
8 interest encoding at least one protein antigen for each of the pathogens and administering the  
9 transformed strain to the animal.

1 29. (Cancelled)

30. (Cancelled)